AF/GP2872

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Dickensheets et al.

Serial No. 09/070,699

Filed: April 30, 1998

For: *MINIATURE SCANNING CONFOCAL MICROSCOPE*

Art Unit: 2872
Examiner: not assigned

TRANSMITTAL

Date: March 23, 1999

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 CFR 1.10 and is addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on March 23, 1999

Signed: Kari Bateman

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed for filing in the referenced case are the following:

1. Amendment under 37 CFR 1.607(a)(4);
2. Interference - Initial Memorandum, PTO Form 850;
3. Request for an Interference with Maynard Patent under 37 CFR 1.607, and Supplemental Request for Interference with A Hurts et al. Application under 37 CFR 1.604;

The fee has been calculated as shown below.

(1) Claims Remaining After Amendment		(2) Highest Previously Paid For	(3) Present Extra	SMALL ENTITY RATE	SMALL ENTITY FEE	OR OTHER THAN A SMALL ENTITY RATE	OR OTHER THAN A SMALL ENTITY FEE
TOTAL CLAIMS 23	-	21	8	x9=	$72	OR x22 =	$
INDEP CLAIMS 6	-	3	3	x39=	$117	OR x82 =	$
					TOTAL $189	OR TOTAL	$

L-67140/A-62591-3/AJT (S95-101)

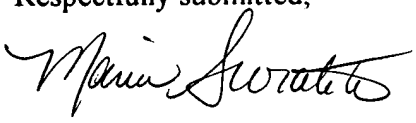
(130019)

4. Our check in the amount of $189.00 is enclosed to cover the fees for additional claims.

5 Return Receipt postcard.

The Commissioner is hereby authorized to charge any underpayment of fees which may be due in connection with this communication, including any extension fees, or credit any overpayment, to our Deposit Account No. 06-1300 (Order No. L-67140/AJT). A copy of this sheet is provided for such purpose.

Respectfully submitted,



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Docket No. 4680:0029:25SD

PTO-850-(Rev. 09-22-97) Count # 1 of 1

INTERFERENCE-INITIAL MEMORANDUM

BOARD OF PATENT APPEALS AND INTERFERENCES: An interference is found to exist between the following cases:
This interference involves 3 Parties

EXAMINERS INSTRUCTIONS - This form need not be typewritten. Complete the items below and forward to the Group Clerk with all file including those benefit of which has been accorded. The parties need not be listed in any specific order. Use a separate form of each count.

(See MPEP 2309.02)

BOARD OF PATENT APPEALS AND INTERFERENCES: An interference is found to exist between the following cases:

1. PARTY	APPLICATION	FILING DATE of CPA	PATENT NO., IF ANY	ISSUE DATE, IF ANY
HURST ET AL.	NO.08/832,422	January 22, 1999	N.A.	

If application has been patented, have maintenance fees been paid? _____Yes _____No _____Maintenance Fees not due yet

The claims of this party which correspond to this count are: 215-242. The claims of this party which do not correspond to this count are: none.

*Accorded the benefit of:

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
U.S.	60/022,775	JULY 30, 1996		
U.S.	60/023,476	AUGUST 06, 1996		
U.S.	60/025,801	AUGUST 27, 1996		
U.S.	08/832,422	MARCH 24, 1997		

PATENTED OR PATENTABLE PENDING CLAIMS
215 - 242

UNPATENTABLE PENDING CLAIMS
None

2. PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
MAYNARD	08/695,717	AUGUST 12, 1996	5,872,880	FEBRUARY 16, 1999

If application has been patented, have maintenance fees been paid? _____Yes _____No __X__Maintenance Fees not due yet

The claims of this party which correspond to this count are: 1-45. The claims of this party which do not correspond to this count are: none.

*Accorded the benefit of:

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
NONE				

PATENTED OR PATENTABLE PENDING CLAIMS
1 - 45

UNPATENTABLE PENDING CLAIMS
None

Docket No.4680-0029-2SD

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF:

DICKENSHEETS ET AL. : GROUP ART UNIT: 2872

SERIAL NO: 09/070,699 : EXAMINER: PHAM, I.

FILED: APRIL 30, 1998 :

FOR: Miniature Scanning Confocal Microscope

37 CFR 1.607 REQUEST FOR AN INTERFERENCE WITH A MAYNARD PATENT AND A SUPPLEMENTAL 37 CFR 1.604 REQUEST FOR AN INTERFERENCE WITH A HURST ET AL. APPLICATION

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

I. 37 CFR 1.607(a)(1)

The patent is U.S. patent No.5,872,880 issued February 16, 1999 and naming Ronald S. Maynard as inventor. The face of the patent also lists Ronald S. Maynard as the assignee.

II. 37 CFR 1.607(a)(2)

Applicants propose the following count, which is in the format approved by the Commissioner in Orikasa v. Oonishi, 10 USPQ2d 1999, 2003 (Comm'r 1990), and Davis v. Uke, 27 USPQ2d 1180, 1188 (Comm'r 1993):

Claims 1, 3, 4, 6, 8, 21, 24, 28, 31, or 35 of the Maynard patent

OR

Claims 215, 227, 230, 234, 237, or 241 of the Hurst et al. application serial No. 08/823,422 [1] Ngo

OR

Claims 44, 56, 59, 63, 66, or 70 of the Dickensheets et al. application.

An extra copy of the proposed count is submitted herewith for the examiner's use in filling out the form PTO-850. In addition, as explained in Section IX of this request, a proposed form PTO-850 is submitted herewith for the examiner's convenience.

III. 37 CFR 1.607(a)(3)

All 45 claims in the Maynard patent correspond to the proposed count. Indeed, the proposed count includes all of the independent claims in that patent.

IV. 37 CFR 1.607(a)(4)

Claims 44-72 presented in the 37 CFR 1.607(a)(4) amendment submitted herewith correspond to the proposed count. Indeed, the proposed count includes all of the independent claims in that group of claims.

While dependent claims 45-55, 57, 58, 60-62, 64, 65, 67-69, 71, and 72 do not correspond exactly to the proposed count, applicants do not currently argue that any of those claims is drawn to a separate patentable invention within the meaning of 37 CFR 1.601(n).

The interference should be declared because, as shown by the table below, the parties are claiming the same invention. The claims of the respective parties that are identical to or

[1]Applicants have access to the Hurst et al. application, so they know the numbers of the claims in that application.

substantially identical to each other are as follows:

Hurst et al. Application	Maynard Patent	Dickensheets et al. Application
215	8	44
216	9	45
217	10	46
218	11	47
219	12	48
220	13	49
221	14	50
222	15	51
223	16	52
224	18	53
225	19	54
226	20	55
227	21	56
228	22	57
229	23	58
230	24	59
231	25	60
232	26	61
233	27	62
234	28	63
235	29	64
236	30	65
237	31	66
238	32	67

239	33	68
240	34	69
241	35	70
242	36	71
	38	72

V. 37 CFR 1.607(a)(5)

The terms of the application claims identified as corresponding to the proposed count and not previously in the application can be applied to the disclosure of the application as follows:

Terms of the Claims	Application to theDisclosure of the Dickensheets et al. Application
44. An optical beam steering apparatus comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity; and	Single substrate body 11, at least one cavity 29 (element 11 is considered the top and element 16 is considered the bottom of the device illustrated in, e.g., Fig. 3), and an optical path 13; Fig. 3
a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam in a direction substantially normal to the upper surface of the substrate body.	A beam steering assembly 18; Fig.3; page 5 lines 3-10.
45. The optical apparatus according to claim 44 wherein the beam steering assembly is placed at a predetermined orientation within the upper cavity for controllably altering the optical path of an impinging beam in at least one direction that	Page 5 lines 6-11.

is emanating from or propagating towards the primary optical path.	
46. The optical apparatus according to claim 44 wherein the primary optical path is a waveguide.	Optical fiber 13 is a waveguide.
47. The optical apparatus according to claim 44 wherein the primary optical path is a groove for accommodating the passage of the light beam.	V-groove shown in Fig. 1.
48. The optical apparatus according to claim 47 wherein the groove is a V-groove.	V-groove shown in Fig. 1.
49. The optical apparatus according to claim 48 further comprising a primary optical element for accommodating the light beam wherein the primary optical element is provided within the V-groove.	Optical fiber 13 is provided in the V-groove shown in Fig. 1.
50. The optical apparatus according to claim 49 wherein the primary optical element is selected from the group consisting of optical waveguides, refractive optical elements, reflective optical elements, phase optical elements, light detectors, and lasers.	Optical fiber 13, laser light source 61, photodetector 64; Fig. 8; page 8 lines 1-7.
51. The optical apparatus according to claim 44 wherein the substrate body is formed of a crystal having a differential etch rate between different crystallographic planes.	Page 5 lines 2-6 and 20-21; Fig. 3; elements 22, 28, and 29; Figs. 15-17; page 10 line 28 - page 11 line 16.
52. The optical apparatus according to claim 44 wherein at least one cavity is anisotropically etched into the substrate body.	Cavity 22; Fig. 3; page 5 lines 2-6; Figs. 15-17; page 10 line 28 - page 11 line 16.
53. The optical apparatus according to claim 44 further comprising a cover plate for covering at least one cavity and an adjacent surface of the substrate body.	Cover plate 16; Fig. 3; page 4 lines 29-30. Also the portion of the element 11 above the cavities 28 and 29, as illustrated in, e.g., Fig. 3, form a cover-plate for those cavities (element 11 is considered the top of the

device illustrated in, e.g., Fig. 3).

54. The optical apparatus according to claim 53 wherein the cover plate is formed from a material with at least one characteristic selected from the group consisting of optically opaque, transparent, translucent, electrically conductive, and electrically insulative.

The cover plates 11 and 16 are optically opaque and electrically insulative.

55. The optical apparatus according to claim 44 further comprising:

a hinge for flexibly connecting the beam steering assembly with an upper edge of the upper cavity that is not coincident with the primary optical path;

Hinge 57; Fig. 2; page 6 lines 2-4.

wherein the beam steering assembly includes at least one reflective surface such that the beam steering assembly is disposed within the upper cavity so that an impinging beam of light emanating from the primary optical path is controllably deflected in the same general direction the upper cavity is facing and wherein a beam of light entering from the same general direction the upper cavity is facing is controllably deflected towards said primary optical path.

Page 5 lines 6-11.

56. A hybrid optical steering system comprising:

Passim.

a single substrate body defined by an upper surface and a lower surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;

See claim 44.

a lower cavity formed on the lower surface of the substrate body having a

Lower cavity 21; Fig. 3.

predetermined alignment with respect to the upper cavity;

a suspended bridge spanning the primary optical path at a juncture between the primary optical path and the upper cavity;

Suspended bridge 12; Fig. 3; page 4 line 30-page 5 line 1.

a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and

Beam steering assembly 18; Fig. 3; page 5 lines 6-8.

a hinge for flexibly anchoring the beam steering assembly to the suspended bridge wherein the beam steering assembly has at least one reflective surface and is rotated towards the upper cavity so that an impinging beam of light emanating from the primary optical path is controllably deflected in a direction generally from the upper cavity to the lower cavity and an impinging beam of light entering from the lower cavity is controllably deflected in a direction generally from the lower cavity to the upper cavity towards the primary optical path.

Hinge 57; Fig. 2; page 6 lines 2-4, page 5 lines 6-11.

57. The optical apparatus according to claim 56 further comprising: a secondary optical element for accommodating a beam of light disposed within the lower cavity of the substrate body;

Secondary optical element 19; Fig. 3; page 5 lines 6-11.

means for aligning the secondary optical element within the lower cavity so that the secondary optical element is substantially centered in the lower cavity and the optical axis of the secondary optical element is aligned at a predetermined angle with respect to the lower surface of the substrate body.

Means 16; Fig. 3.

58. The optical apparatus according to claim 57 wherein the secondary optical

element is selected from the group consisting of refractive optical elements, reflective optical elements, phase optical elements, and light detectors.	Lens 19; Fig. 3.
59. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a gimbaled micromirror nested in a set of gimbaled hinges that provides an axis of rotation of the gimbaled micromirror with respect to the frame and wherein the frame holds the set of the gimbaled hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	Micromirror 18, gimbaled hinges 57; Fig. 3; page 4 line 30 - page 5 line 2, page 6 lines 2-4; micromirror 116, gimbaled hinges 117, 118, 122, 123; Figs. 21-23; page 13 lines 1-8.
60. The steerable optical device according to claim 59 further comprising:	
a plurality of independently addressable electrodes disposed about the gimbaled micromirror for positioning the micromirror in direct electrical	Addressable electrodes 33, 34; Fig. 3; page 5 lines 22-24; addressable electrodes 136, 137, 138, 139; Fig. 22.
communication with a plurality of electrical lines; and	Electrical lines 41-44; Fig. 2; page 5 lines 24-25.

electronic control means in communication with the electrical lines for electrically driving the gimbaled micromirror to a predetermined angular orientation with respect to the frame.	Electronical control means shown in Figs. 9 and 10; page 8 line 8 - page 9 line 11.
61. The steerable optical device according to claim 59 wherein the gimbaled micromirror is defined by an electrically conductive and optically reflective surface and further includes a conductive film.	Page 6 lines 4-8.
62. The steerable optical device according to claim 61 further including an insulating film covering at least a portion of the gimbaled micromirror.	Insulating film 12; Fig. 2; page 5 line 29 - page 6 line 2.
63. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a micromirror nested in a set of hinges that provides an axis of rotation of the micromirror with respect to the frame and wherein the frame holds the set of hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	See claim 59.
64. The steerable optical device	

according to claim 63 further comprising:	
a plurality of independently addressable electrodes disposed about the micromirror for positioning the micromirror in direct electrical communication with a plurality of electrical lines; and	See claim 60.
electronic control means in communication with the electrical lines for electrically driving the micromirror to a predetermined angular orientation with respect to the frame.	See claim 60.
65. The steerable optical device according to claim 63 wherein the micromirror is defined by an external surface and is formed with a conductive film adjacent to its external surface and across the at least one set of hinges so that the micromirror is in electrical communication with the electronic control means.	Conductive film 101-104; Fig. 15; page 10 lines 25-27.
66. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a hybrid micromirror nested in at least one set of gimbaled hinges including a relatively outermost set of hinges that provides additional axes of	Gimbaled hinges 57; Fig. 3; page 6 lines 2-4; gimbaled hinges 117, 118, 122, 123; Fig. 22; page 13 lines 1-7.

rotation of the hybrid micromirror with respect to the frame and wherein the frame holds an outermost set of the hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.

67. The steerable optical device according to claim 66 further comprising:

a plurality of independently addressable electrodes disposed about the hybrid micromirror for positioning the micromirror in direct electrical communication with a plurality of electrical lines; and — See claim 60.

electronic control means in communication with the electrical lines for electrically driving the hybrid micromirror to a predetermined angular orientation with respect to the frame. — See claim 60.

68. The steerable optical device according to claim 66 wherein the hybrid micromirror is defined by an electrically conductive and optically reflective surface and further includes a conductive film. — See claim 65.

69. The steerable optical device according to claim 68 further including an insulating film covering at least a portion of the hybrid micromirror. — See claim 62.

70. An optical head assembly comprising: — Passim.

a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper — See claim 44.

cavity; and

a beam steering assembly rigidly affixed in a predetermined orientation within at least a portion of the upper cavity having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the upper cavity.	See claim 44.
71. The optical apparatus according to claim 70 wherein the beam steering assembly is rigidly affixed within the upper cavity by chemical bonding with a chemical bonding agent.	Page 5 lines 29-30.
72. The optical apparatus according to claim 70 wherein the beam steering assembly is rigidly affixed within the upper cavity by thermal bonding with a thermal bonding agent.	Page 10 line 28 - page 11 line 3.

VI. 37 CFR 1.607(a)(6)

37 CFR 1.607(a)(6) is irrelevant since this request and the accompanying 37 CFR 1.607(a)(4) amendment are being submitted prior to one year from the date on which the Maynard patent was granted.

VII. REQUEST FOR THE BENEFIT OF THE FILING DATES OF APPLICANTS' PRIORITY APPLICATIONS

Applicants Dickensheets et al. present application is a continuation of application serial No. 08/797,931 (hereinafter referred to as "the '931 application"), and they claim the benefit of the February 12, 1997 filing date of the '931 application under 35 USC 120. Applicants Dickensheets et al. also claim the benefit of the filing date of application serial No. 08/575,687 (hereinafter referred to as "the '687 application"), which was filed on December 19, 1995. The

'931 application is a continuation-in-part of the '687 application. Applicants Dickensheets et al. further claim the benefit of the filing date of provisional application serial No. 60/006,303 which was filed November 11, 1995, under 35 USC 119(e).

Applicants are entitled to the benefit of the filing date of the '931 application for interference purposes if the count reads on at least one adequately disclosed embodiment in the earlier application.[2] That this is so is demonstrated from the fact that the instant application is a continuation of the '931 application. Consequently, the '931 application has the same disclosure as the instant application, and the application of the terms of the claims to the disclosure in Section V herein is equally applicable to the disclosure of the '931 application.

In addition, support for the count in '687 application and the provisional application is set forth in the table below.

[2]Weil v. Fritz, 572 F.2d 856, 865-66 n.16, 196 USPQ 600, 608 n.16 (CCPA 1978).

Terms of Dickensheets et al.'s Independent Claims	Application to Disclosure of Application Serial No. 08/575,687
44. An optical beam steering apparatus comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity; and	Single substrate body 11, at least one cavity 29 (element 11 is considered the top and element 16 is considered the bottom of the device illustrated in, e.g., Fig. 3), and an optical path 13; Fig. 3.
a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam in a direction substantially normal to the upper surface of the substrate body.	A beam steering assembly 18; Fig. 3; page 4 lines 7-13.

56. A hybrid optical steering system comprising:	Passim.
a single substrate body defined by an upper surface and a lower surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a lower cavity formed on the lower surface of the substrate body having a predetermined alignment with respect to the upper cavity;	Lower cavity 21; Fig. 3.
a suspended bridge spanning the primary optical path at a juncture between the primary optical path and the upper cavity;	Suspended bridge 12; Fig. 3; page 4 lines 3-5.
a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	Beam steering assembly 18; Fig. 3; page 4 lines 9-15.
a hinge for flexibly anchoring the beam steering assembly to the suspended bridge wherein the beam steering assembly has at least one reflective surface and is rotated towards the upper cavity so that an impinging beam of light emanating from the primary optical path is controllably deflected in a direction generally from the upper cavity to the lower cavity and an impinging beam of light entering from the lower cavity is controllably deflected in a direction generally from the lower cavity to the upper cavity towards the primary optical path.	Hinge 57; Fig. 2; page 5 lines 6-9.

59. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a gimbaled micromirror nested in a set of gimbaled hinges that provides an axis of rotation of the gimbaled micromirror with respect to the frame and wherein the frame holds the set of the gimbaled hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	Micromirror 18, gimbaled hinges 57; Fig. 3; page 4 lines 3-13, page 5 lines 6-9.

63. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a micromirror nested in a set of hinges that provides an axis of rotation of the micromirror with respect to the frame and wherein the frame holds the set of hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	See claim 59.

66. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a hybrid micromirror nested in at least one set of gimbaled hinges including a relatively outermost set of hinges that provides additional axes of rotation of the hybrid micromirror with respect to the frame and wherein the frame holds an outermost set of the hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	Gimbaled hinges 57; Fig. 3; page 5 lines 6-9.

70. An optical head assembly comprising: a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity; and a beam steering assembly rigidly affixed in a predetermined orientation within at least a portion of the upper cavity having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the upper cavity.	Passim. See claim 44. See claim 44.

Terms of Dickensheets et al.'s Independent Claims	Application to Disclosure of Application Serial No. 60/006,303
44. An optical beam steering apparatus comprising: a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity; and a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam in a direction substantially normal to the upper surface of the substrate body.	Passim. Single substrate body 11, at least one cavity 29 (element 11 is considered the top and element 16 is considered the bottom of the device illustrated in , e.g., Fig.3), and an optical path 13; Fig. 3. A beam steering assembly 18; Fig. 3; page 3 lines 22-28.

56. A hybrid optical steering system comprising:	Passim.
a single substrate body defined by an upper surface and a lower surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a lower cavity formed on the lower surface of the substrate body having a predetermined alignment with respect to the upper cavity;	Lower cavity 21; Fig. 3.
a suspended bridge spanning the primary optical path at a juncture between the primary optical path and the upper cavity;	Suspended bridge 12; Fig. 3; page 3 lines 18-20.
a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	Beam steering assembly 18; Fig. 3; page 3 lines 25-30.
a hinge for flexibly anchoring the beam steering assembly to the suspended bridge wherein the beam steering assembly has at least one reflective surface and is rotated towards the upper cavity so that an impinging beam of light emanating from the primary optical path is controllably deflected in a direction generally from the upper cavity to the lower cavity and an impinging beam of light entering from the lower cavity is controllably deflected in a direction generally from the lower cavity to the upper cavity towards the primary optical path.	Hinge 57; Fig. 2; page 4 lines 22-25.

59. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a gimbaled micromirror nested in a set of gimbaled hinges that provides an axis of rotation of the gimbaled micromirror with respect to the frame and wherein the frame holds the set of the gimbaled hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	Micromirror 18, gimbaled hinges 57; Fig. 3; page 3 lines 18-28, page 4 lines 22-25.

63. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a micromirror nested in a set of hinges that provides an axis of rotation of the micromirror with respect to the frame and wherein the frame holds the set of hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	See claim 59.

66. A micro-machined steerable optical device comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body, and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity;	See claim 44.
a beam steering assembly having a steerable element positioned substantially adjacent to the upper cavity for controllably directing the light beam through at least a portion of the substrate body; and	See claim 56.
a frame and a hybrid micromirror nested in at least one set of gimbaled hinges including a relatively outermost set of hinges that provides additional axes of rotation of the hybrid micromirror with respect to the frame and wherein the frame holds an outermost set of the hinges and is connected to the upper surface of the substrate body so that the beam steering assembly may deflect a light beam in a direction towards one surface.	Gimbaled hinges 57; Fig. 3; page 4 lines 22-25.

70. An optical head assembly comprising:	Passim.
a single substrate body defined by an upper surface and formed with at least one cavity including an upper cavity formed on the upper surface of the substrate body and a primary optical path for accommodating the passage of a light beam aligned in a predetermined orientation with the upper cavity; and	See claim 44.
a beam steering assembly rigidly affixed in a predetermined orientation within at least a portion of the upper cavity having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the upper cavity.	See claim 44.

VIII. 37 CFR 1.608

37 CFR 1.608 is irrelevant since the effective filing date of this application precedes the effective filing date of the Maynard patent.

IX. SUBMISSION OF PROPOSED FORM PTO-850

Submitted herewith for the convenience of the examiner is a proposed form PTO-850.

Respectfully submitted,

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